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(54) Title: SOIL MEMBRANE FORMING MIXTURE

(57) Abstract: This invention relates to an organic, environment-friendly, preferably antioxidising and biodegradable climate, soil and growth enhancing mixture of preferably organic materials that can be applied to moist soil as dry matter or dry soil in liquid state, and which subsequently solidifies into a degradable film or membrane on top of or at a given depth in the soil. The properties of the film can be set so that the film regulates or changes the soil's oxidation ability, degradation rate, temperature, greenhouse gas respiration, combustibility, mechanical strength, evaporation rate, water runoff, nutrient conversion rate and germination conditions on and/or below the surface of the soil mass. The film or membrane can be used alone or in combination with standard plant nutrition or fertiliser.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000071

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A01G 13/02 // A01G 1/00, A01G 13/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A01G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0170012 A1 (JOHNSEN, LISE), 27 Sept 2001 (27.09.2001), page 10, line 8 - line 21, abstract	1,2
Y	--	4-32,34-56
X	US 6029395 A (MORGAN), 29 February 2000 (29.02.2000), column 5, line 1 - line 11, abstract	1
Y	--	4-32,34-56
Y	NO 164106 B (BASF AKTIENGESELLSCHAFT), 21 March 1986 (21.03.1986), whole document	4-32,34-56
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0177226 A2 (POLYSAR LIMITED), 9 April 1986 (09.04.1986), whole document --	4-32,34-56
Y	US 2961799 A (BERNARD COE), 29 November 1960 (29.11.1960), whole document --	4-32,34-56
Y	WO 9801510 A1 (STATE OF ISRAEL MINISTRY OF AGRICULTURE), 15 January 1998 (15.01.1998), whole document --	4-32,34-56
Y	US 3891571 A (LAMBOU ET AL), 24 June 1975 (24.06.1975), whole document --	4-32,34-56
X	GB 903959 A (SOIL MECHANICS LTD), 22 August 1962 (22.08.1962), whole document --	32
X	US 3180097 A (RICHARD H McDOWELL), 27 April 1965 (27.04.1965), whole document --	32
A	EP 0274851 A1 (HARVEST CHEMICALS (PROPRIETARY)LTD), 20 July 1988 (20.07.1988), whole document -- -----	32

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

03/07/2004

PCT/NO 2004/000071

WO	0170012	A1	27/09/2001	AU	5277301 A	03/10/2001
				NO	20001533 D	00/00/0000
				NO	20003587 A	27/09/2001
US	6029395	A	29/02/2000	US	6293045 B	25/09/2001
NO	164106	B	21/03/1986	CA	1266992 A	27/03/1990
				CN	1007065 B	07/03/1990
				CN	85106880 A	11/03/1987
				DE	3585764 A	07/05/1992
				EG	17432 A	30/06/1989
				EP	0177226 A,B	09/04/1986
				SE	0177226 T3	
				ES	547118 A	16/11/1987
				ES	8800577 A	01/02/1988
				FI	83229 B,C	28/02/1991
				FI	853507 A	21/03/1986
				IL	76390 A	18/01/1990
				JP	61074523 A	16/04/1986
				NO	853631 A	21/03/1986
				US	4705816 A	10/11/1987
EP	0177226	A2	09/04/1986	SE	0177226 T3	
				CA	1266992 A	27/03/1990
				CN	1007065 B	07/03/1990
				CN	85106880 A	11/03/1987
				DE	3585764 A	07/05/1992
				EG	17432 A	30/06/1989
				ES	547118 A	16/11/1987
				ES	8800577 A	01/02/1988
				FI	83229 B,C	28/02/1991
				FI	853507 A	21/03/1986
				IL	76390 A	18/01/1990
				JP	61074523 A	16/04/1986
				NO	164106 B,C	21/05/1990
				NO	853631 A	21/03/1986
				US	4705816 A	10/11/1987
US	2961799	A	29/11/1960	GB	910974 A	21/11/1962
WO	9801510	A1	15/01/1998	AU	711147 B	07/10/1999
				AU	3271597 A	02/02/1998
				CA	2259236 A	15/01/1998
				CN	1065264 B	02/05/2001
				CN	1224441 A	28/07/1999
				EP	0909300 A	21/04/1999
				IL	118787 A	17/02/2000
				US	6270291 B	07/08/2001
				US	2001001634 A	24/05/2001
US	3891571	A	24/06/1975		NONE	
GB	903959	A	22/08/1962		NONE	
US	3180097	A	27/04/1965	GB	908868 A	24/10/1962

INTERNATIONAL SEARCH REPORT
Information on patent family members

03/07/2004

International application No.

PCT/NO 2004/000071

EP	0274851 A1	20/07/1988	AU	604323 B	13/12/1990
			AU	1665288 A	30/11/1989
			CA	1308929 A,C	20/10/1992
			DE	3780797 A	03/09/1992
			ES	2043671 T	01/01/1994
			US	5009710 A	23/04/1991
			ZA	8709051 A	27/07/1988
			ZW	1488 A	26/10/1988